# Group-Worthy Tasks

*Carefully constructed group learning activities can foster students' academic and social growth and help close the achievement gap.*

**Rachel A. Lotan**

Many educators believe that group work and collaborative learning are effective in academically and linguistically heterogeneous classrooms, and the evidence for the academic and social benefits of these instructional strategies is substantial (Sharan, 1990; Slavin, 1983). Too few educators, however, understand the crucial design elements needed for successful group tasks. Some students who easily complete tasks designed for individuals may refuse to devote time and energy to building group cohesiveness or group consensus; others may openly resist making their grades dependent on the efforts (or lack thereof) of other members of their group. The teacher, therefore, must deliberately and carefully craft learning tasks that are "group-worthy."

Such tasks have the following five design features:

- They are open-ended and require complex problem solving.
- They provide students with multiple entry points to the task and multiple opportunities to show intellectual competence.
- They deal with discipline-based, intellectually important content.
- They require positive interdependence as well as individual accountability.
- They include clear criteria for the evaluation of the group's product.

## Open-Ended Tasks

During group work, students can engage in two kinds of tasks: routine and open-ended.

For routine tasks, students follow clear and detailed procedures to arrive at a correct answer or a predictable solution. They may decode words, use the dictionary to find definitions or check spelling, recall or summarize factual information, complete sentences, draw and color maps, label parts of plants or machines, practice arithmetical operations, or fill in the blanks on worksheets. Students can be successful at such tasks by conscientiously following instructions, applying familiar algorithms and formulas, or locating and memorizing information.

Group work is not essential for routine tasks, but it can benefit many students, particularly those who provide help to their peers by explaining, modeling, and practicing these basic academic skills (Webb & Farivar, 1999). Such highly structured, traditional school tasks, however, are rarely relevant to learning how to address everyday, real-life problems.

In contrast, students who engage in open-ended tasks grapple with many real-life uncertainties and ambiguities. They might design an experiment, build a model, interpret an important historical document, explicate a poem, solve an authentic mathematical problem, or reconcile different points of view in a potentially divisive debate. They can devise different plans, explore multiple paths, and come up with legitimately different solutions—or even with no definite solution at all.

Group-worthy tasks are as close as possible to genuine dilemmas and authentic problems. They require students to share their experiences and justify their beliefs and opinions. In such activities, students analyze, synthesize, and evaluate; they discuss cause and effect, explore controversial issues, build consensus, and draw conclusions. By assigning such tasks, teachers delegate intellectual authority to their students and make their students' life experiences, opinions, and points of view legitimate components of the content to be learned (Lotan, 1997).

Science teachers, for example, can find many group-worthy tasks that are radically different from the traditional, cookbook-style lab activities with detailed directions designed to ensure that students avoid potential mistakes and "discover" the right answer. Open-ended science tasks pose problems in different ways. For example, in the activity "Plasmids and Protein Production" (Heller & Kiely, 1999), students discuss, decide on, and model a possible way to extract a

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plasmid from a bacterium or insert a new plasmid into a bacterium. Students not only explore what genes do and how they work, but they also plan, design, and present a genetic engineering project and reflect on the ethical implications of such technological advances. Should humans use genetic engineering to cure genetic diseases, develop a "human youth hormone" for maintaining a youthful appearance, or insert a gene for being thin or tall?

In combining a study of science with societal considerations, students come to realize that science is not an abstract subject detached from everyday life. As educated consumers of science, students will understand how scientists work and what some of the ramifications of scientific research might be.

## Multiple Ways to Show Competence

In addition to distinguishing between routine and open-ended tasks, some educators distinguish between one-dimensional, paper-and-pencil tasks that require traditional academic skills (reading, writing, computing) and tasks that call on multiple intellectual abilities for successful completion. Because one-dimensional tasks require the same skills, the result is uniform success for some students and uniform failure for others. Students are quick to conclude that some students are "smart" and others are "dumb." These perceptions lead to students creating a rigid status order in the classroom that affects participation and learning in small groups (Cohen, 1994).

Conversely, multidimensional, group-worthy tasks allow more students to make significant contributions to the group effort by using their various talents, intellectual competencies, and diverse repertoires of problem-solving strategies. As they build structures, create murals, compose and perform songs and ballads, act in scenes of plays, and design inventions, more students can show intellectual competence and intellectual diversity. In this way, multiple-ability tasks allow more students to show "smarts." As more students contribute to the group's efforts, their peers and teachers come to recognize these students as intellectually competent. When a teacher publicly recognizes a student's intellectual competence and its relevance to completing a task, he or she actively alleviates the status problems that often develop with one-dimensional projects. This multifaceted approach contributes to changing the social system of the classroom and making it a more equitable place by narrowing the academic achievement gaps among racial and ethnic groups and social classes (Cohen & Lotan, 1997).

Group-worthy learning assignments rely on using materials that incorporate multiple representations of the academic content, thereby supporting

various ways of learning, the development of multiple literacies, and deeper and more sophisticated understandings (Eisner, 1994). Different resources and hands-on materials attract more students and entice them to participate, thus opening additional avenues for students to understand the learning task. Some students may respond more readily when listening to an audiotape of a song, a speech, or a story. Students who are still learning to read might be drawn to the task by examining and analyzing a photograph, a map, or images from a video clip. A graph, a matrix, a cartoon, or a diagram might provide information once conveyed only by text. Students might understand the task better as they work with real objects, manipulatives, or three-dimensional models in addition to attending to the verbal information. Many students who are turned off by traditional assignments show improvement in reading and writing when they can understand the task through these alternative routes (Cohen & Lotan, 1997).

For example, to develop a more profound historical understanding of the Cold War through the events surrounding the Bay of Pigs and the Cuban missile crisis, one high school teacher provided her classroom's groups with the following array of primary sources: an audiotape and a transcript of Cuban Ambassador Carlos Lechuga's address to the United Nations, maps charting the invasion, an excerpt from advisor Arthur Schlesinger's memo to President Kennedy, a videotape of Nikita Khrushchev, photographs of the Soviet missile installations in Cuba, and excerpts from a U.S. Central Intelligence Agency briefing to the U.S. cabinet. Open-ended discussion questions guided students' analyses of the conflicting positions exemplified by these resources. The students then created two scenarios for potentially different outcomes of the crisis and presented them to the class through concise, creative newscasts that included maps and other visual representations.

**Working together to craft group-worthy tasks can be a powerful professional development activity for teachers.**

## Significant Content

Constructivist educators agree that group work is particularly beneficial when conceptual learning, problem solving, and deep understanding of content are the goals of instruction. To learn central concepts, students need to interact, discuss, and clarify their thoughts about such content, which is why well-designed, group-worthy activities address a big idea, invoke a central disciplinary concept, or speak to an essential question.

The genetics unit previously described is a good illustration of this design feature. Students consider the costs and benefits of genetic engineering while deepening their knowledge of the structure and function of genes. They compare the structure of genes to the Morse code and learn about how genes get implanted in plants and spliced into animal cells or human DNA. All of the activities connect to the overarching question of what problems might arise from this technology while teaching about some of the disorders that the technology might cure.

## Interdependence and Individual Accountability

Group-worthy tasks create and support interdependence among members of a group, which is the essence of collaboration (Johnson, Johnson, & Holubec, 2002). Arriving at a group consensus on a controversial issue or working on a tangible product—a model, a poster, a song, a role play, or a presentation—helps create a positive interdependence. And when the teacher generates a sense of urgency for creating a quality product and finishing the task on time, students must rely on one another to complete the task.

Although interdependence is crucial for successful group-worthy tasks, teachers often worry about how to hold each student personally accountable for contributing to the group's success and for mastering the concepts. Written reports completed individually after a group activity can ensure such accountability. In the process of engaging in quality conversations about a concrete group project, students develop mastery of the content and the ability to articulate its ideas. Indeed, the quality of the group discussion and product usually predicts the average performance of the group's individuals on final written assignments (Cohen, Lotan, Abram, Scarloss, & Schultz, 2002).

## Clear Evaluation Criteria

Many teachers report that one of the most persistent dilemmas of group work is assessing group productivity and individual learning. Should the teacher assign a group grade, individual grades, or no grades at all? How can the teacher be sure of the relative contribution of each group member—and how and why would that matter? Should the teacher grade students on the quality of their social skills, their effort, their mastery of the academic content, or all three?

Providing students with specific criteria as to what makes an exemplary group product improves the interactions among the group's members, a particular benefit for heterogeneous classrooms (Cohen et al., 2002). The criteria should reflect the use of multiple abilities, reinforce the use of curriculum materials, and point to the connection between the activity and the central concept. Specific guidelines on what makes a good product give group members a clear idea of how the teacher will evaluate their work and

how they can evaluate their individual and group efforts. Students' substantive exchange of ideas and their willingness to critique what their group is creating enhance the quality of the group product, which in turn improves the group's learning and the academic performance of individuals.

For example, for an activity about human cloning ("Should human cloning be banned?"), students learn about stem cells, read about and listen to people who would benefit from cloning, and watch excerpts from President George W. Bush's statement on stem cell research. After analyzing the material and discussing three arguments supporting and three arguments against cloning, the group reaches a consensus about which position to take on the issue of human cloning. The group task is to develop an ad campaign to educate the public about the group's chosen position and to present that campaign convincingly to the class. The evaluation criteria are specific to the task without taking away its open-endedness:

- The ad campaign should appropriately target and address a specific group of people (for example, students at your high school or members of the U.S. Congress).
- The ad campaign should present three or more highly persuasive arguments in favor of or against human cloning.
- The ad campaign should show creativity and use multimedia resources (Dickson & Sorensen, 2002).

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## Implications for Educators and Students

Group-worthy tasks require considerable expertise and a significant investment of time and effort. Groups of instructors who teach similar subjects or grade levels should collaborate to create these learning activities—a group-worthy task in itself. They can use the criteria described above to analyze and evaluate published curriculums and group-work proposals.

In addition to being a powerful professional development activity, group-worthy tasks have academic and social benefits; they foster students' critical thinking skills and contribute to friendlier classrooms. Teachers should also keep in mind the importance of addressing problems associated with unequal access to the curriculum and unequal participation in the classroom. Educators can narrow the achievement gap in academically and linguistically diverse classrooms by fostering an appreciation of students' different kinds of problem-solving strategies and intellectual competence. Crafting group-worthy tasks is an initial step toward this goal. ■

## References


Cohen, E. G. (1994). *Designing group-work: Strategies for heterogeneous classrooms*. New York: Teachers College Press.

Cohen, E. G., & Lotan, R. A. (Eds.). (1997). *Working for equity in heterogeneous classrooms: Sociological theory in practice*. New York: Teachers College Press.

Cohen, E. G., Lotan, R. A., Abram, P. L., Scarloss, B. A., & Schultz, S. E. (2002). Can groups learn? *Teachers College Record, 104*(6), 1045–1068.

Dickson, R. T., & Sorensen, L. (2002). *Genetics: A groupwork task*. Unpublished manuscript, Stanford University.

Eisner, E. W. (1994). *Cognition and curriculum reconsidered*. New York: Teachers College Press.

Heller, H. C., & Kiely, M. L. (Eds.). (1999). *Human biology: Life sciences for the middle grades—Genetics*. Chicago: Everyday Learning Corporation.

Johnson, D., Johnson, R., & Holubec, E. (2002). *Circles of learning* (5th ed.). Edina, MN: Interaction Book Company.

Lotan, R. A. (1997). Principles of a principles curriculum. In E. G. Cohen & R. A. Lotan (Eds.), *Working for equity in heterogeneous classrooms: Sociological theory in practice* (pp. 105–116). New York: Teachers College Press.

Sharan, S. (1990). *Cooperative learning*. New York: Praeger.

Slavin, R. (1983.) *Cooperative learning*. New York: Longman.

Webb, N. M., & Farivar, S. (1999). Developing productive group interaction in middle school mathematics. In A. M. O'Donnell & A. King (Eds)., *Cognitive perspectives on peer learning* (pp. 117–149). Hillsdale, NJ: Erlbaum.



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